

**Abstract**

The present invention relates to a novel process for decolorization of colored effluents. More particularly it relates to a process for decolorization of colored effluents of textile mills, dye-making industries, paper and pulp industries and molasses spent wash from 5 alcohol distilleries using an unidentified marine fungus NIOCC #2a isolated from mangrove wood and deposited in the microbial type culture collection (MTCC) of the Institute of Microbial Technology, Chandigarh, India, under the accession number MTCC 5159. Further, this invention relates to decolorization of these effluents using the 10 fungus directly, its cell-free culture supernatant or immobilized fungus or extracellular polymeric substances produced by the fungus. Furthermore, the decolorization of effluents can be carried out from 30°C to 60°C and at pH 3 to 6. The decolorization of various colored effluents occurs in the presence of sea water with 25 parts per thousand 15 salinity. Besides, several synthetic dyes are also decolorized under similar conditions of temperature and pH by using free mycelia or immobilized fungus or extracellular culture fluids or extracellular polymeric substances.